Notice No.2

Rules and Regulations for the Classification of Offshore Units July 2017

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Please note that corrigenda amends to paragraphs, Tables and Figures are not shown in their entirety.

Issue date: December 2017

Amendments to	Effective date	IACs/IMO implementation (if applicable)
Part 1, Chapter 1, Sections 3 & 5	1 January 2018	N/A
Part 1, Chapter 2, Section 2	1 January 2018	1 January 2019
Part 1, Chapter 3, Sections 2 & 12	1 January 2018	N/A
Part 1, Chapter 3, Section 22	1 January 2018	1 January 2018
Part 3, Chapter 4, Section 1	1 January 2018	N/A
Part 3, Chapter 11, Section 1	1 January 2018	N/A
Part 3, Chapter 16, Section 1	1 January 2018	N/A
Part 5, Chapter 1, Section 1	1 January 2018	N/A

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Part 1, Chapter 1
General Regulations

■ *Section 3*
Technical Committee

3.1 ~~LR's Technical Committee is at present composed of a maximum of 80 members which includes:~~ LR maintains a Technical Committee, at present comprised of a maximum of 80 members, and additionally an Offshore Technical Committee with specific responsibility for LR's Rules for Offshore Units, at present comprised of a maximum of 80 members. Membership of the Technical Committees includes:

Ex officio members:

- Chairman and Chief Executive Officer of Lloyd's Register Group Limited
- Chairman of the Classification Committee of Lloyd's Register Group Limited

Members Nominated by:

- Technical Committee or Offshore Technical Committee
- Professional bodies representing technical disciplines relevant to the industry
- National and International trade associations with competence relevant to technical issues related to LR's business

3.2 In addition to the foregoing:

(a) Each National or Area Committee may appoint a representative to attend meetings of the Technical Committees.
(b) A maximum of five further representatives from National Administrations may be co-opted to serve on the Technical Committees. Representatives from National Administrations may also be elected as members of the Technical Committees as Nominated Members.
(c) Further persons may be co-opted to serve on the Technical Committees by the relevant Technical Committee.

3.3 All elections are subject to confirmation by the Board.

3.4 The function of the Technical Committees is to consider:

(a) any technical issues connected with LR's business;
(b) any proposed alterations in the existing Rules;
(c) any new Rules for classification;

Where changes to the Rules are necessitated by mandatory implementation of International Conventions and Codes, or Common Rules, Unified Requirements and Interpretations adopted by the International Association of Classification Societies, these may be implemented by LR without consideration by the relevant Technical Committee, although any such changes ~~will~~ may be provided to the Technical Committees for information.

Where changes to the Rules are required by LR to enable existing technical requirements within the Rules to be recognised as Class Notations or Descriptive Notes, these may be implemented by LR without consideration by the relevant Technical Committee, although any such changes will be provided to the relevant Technical Committee for information.

3.5 The term of office of the Chairman and of all members of ~~the~~ each Technical Committee is five years. Members may be re-elected to serve an additional term of office with the approval of the Board. The term of office of the Chairman may be extended with the approval of the Board.

3.6 In the case of continuous non-attendance of a member, the relevant Technical Committee may withdraw membership.

3.7 Meetings of the Technical Committees are convened as often and at such times and places as is necessary, but there is to be at least one meeting in each year. ~~Urgent matters~~ Matters may also be considered by the Technical Committees by correspondence.

3.8 Any proposal involving any alteration in, or addition to the General Regulations, of Rules for Classification is subject to approval of the Board. All other proposals for additions to or alterations to the Rules for Classification other than the General Regulations, will following consideration and approval by the relevant Technical Committee either at a meeting of ~~the~~ that Technical Committee or by correspondence, be recommended to the Board for adoption.

3.9 The Technical Committees ~~is~~ are empowered to:

(a) appoint sub-Committees or panels; and
(b) co-opt to the Technical Committee, or to its sub-Committees or panels, representatives of any organisation or industry or private individuals for the purpose of considering any particular problem.

■ *Section 5*
Applicability of Classification Rules and Disclosure of Information

5.1 LR has the power to adopt, and publish as deemed necessary, Rules relating to classification and has (in relation thereto) provided the following:

(a) Except in the case of a special directive by the Board, no new Regulation or alteration to any existing Regulation relating to classification or to class notations is to be applied to existing ships.

(b) Except in the case of a special directive by the Board, or where changes necessitated by mandatory implementation of International Conventions, Codes or Unified Requirements adopted by the International Association of Classification Societies are concerned, no new Rule or alteration in any existing Rule is to be applied compulsorily after the date on which the contract between the ship builder and shipowner for construction of the ship has been signed, nor within six months of its adoption. The date of 'contract for construction' of a ship is the date on which the contract to build the ship is signed between the prospective shipowner and the ship builder. This date and the construction number (i.e. hull numbers) of all the vessels included in the contract are to be declared by the party applying for the assignment of class to a newbuilding. The date of 'contract for construction' of a series of sister ships, including specified optional ships for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective shipowner and the ship builder. In this section a 'series of sister ships' is a series of ships built to the same approved plans for classification purposes, under a single contract for construction. The optional ships will be considered part of the same series of sister ships if the option is exercised not later than 1 year after the contract to build the series was signed. If a contract for construction is later amended to include additional ships or additional options, the date of 'contract for construction' for such ships is the date on which the amendment to the contract is signed between the prospective shipowner and the ship builder. The amendment to the contract is to be considered as a 'new contract'. If a contract for construction is amended to change the ship type, the date of 'contract for construction' of this modified vessel, or vessels, is the date on which the revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder. Where it is desired to use existing approved ship or machinery plans for a new contract, written application is to be made to LR. Sister ships may have minor design alterations provided that such alterations do not affect matters related to classification, or if the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the ship builder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to LR for approval. Recognising the long time period that may occur between the initial design contract and the contract for construction for offshore units for fixed locations, the date determining effective classification requirements will be specially considered by LR in such cases.

(c) All reports of survey are to be made by surveyors authorised by members of the LR Group to survey and report (hereinafter referred to as 'the Surveyors') according to the form prescribed, and submitted for the consideration of the Classification Committee.

(d) Information contained in the reports of classification and statutory surveys will be made available to the relevant owner, National Administration, Port State Administration, P&I Club, hull underwriter and, if authorised in writing by that owner, to any other person or organisation.

(e) Notwithstanding the general duty of confidentiality owed by LR to its client in accordance with the LR Rules, LR clients hereby accept that, LR will participate in the IACS Early Warning System which requires each IACS member to provide its fellow IACS members and Associates with relevant technical information on serious hull structural and engineering systems failures, as defined in the IACS Early Warning System (but not including any drawings relating to the ship which may be the specific property of another party), to enable such useful information to be shared and utilised to facilitate the proper working of the IACS Early Warning System. LR will provide its client with written details of such information upon sending the same to IACS Members and Associates.

(f) Information relating to the status of classification and statutory surveys and suspensions/withdrawals of class together with any associated conditions of class will be made available as required by applicable legislation or court order.

(g) A Classification Executive consisting of senior members of LR's Classification Department staff shall carry out whatever duties that may be within the function of the Classification Committee that the Classification Committee assigns to it.

Part 1, Chapter 2
Classification Regulations

■ *Section 2*
Definitions, character of classification and class notation

2.6 Lifting Appliances

~~2.6.1 *See Pt 3, Ch 11 Lifting Appliances and Support Arrangements*.~~

2.6.1 **LA**. This mandatory notation is assigned where one or more lifting appliances are considered to be an essential feature of the vessel, e.g. cranes on crane barges, lifting arrangements for diving on diving support vessels. *See Pt 3, Ch 11 Lifting Appliances and Support Arrangements*.

2.6.2 **LȦ**. This mandatory notation is assigned where one or more lifting appliances are considered to be an essential feature of the vessel and have been classed by a recognised classification society other than Lloyd's Register and later transferred into class with LR. *See Pt 3, Ch 11 Lifting Appliances and Support Arrangements.*

2.9 Descriptive Notes/Supplementary Character

2.9.7 Where an Owner meets the requirements of the *ShipRight Procedure to obtain IHM (Inventory of Hazardous Materials) certification*, the ShipRight descriptive note **IHM** (Inventory of Hazardous Materials) will be assigned and entered on the Class Direct website.

Part 1, Chapter 3
Periodical Survey Regulations

■ *Section 2*
Annual Surveys – Hull and machinery requirements

2.2 Structure and equipment

2.2.3 **Column-stabilised units and tension-leg units**. ~~At the first Annual Survey subsequent to build, units are subject to examination of major structural components including NDE of critical areas, *see also Pt 1, Ch 3, 1.6 Planned survey programme* and *Pt 1, Ch 2, 3.5 Existing installations Periodical Surveys*. The~~ In addition to the requirements of *Pt 1, Ch 3, 2.2 Structure and equipment 2.2.1* and *Pt 1, Ch 3, 2.2 Structure and equipment 2.2.2,* the Annual Survey is to include a complete bracing Close-up Survey, consisting of a detailed dry examination of all bracings and their structural connections to columns, pontoons and decks. The following critical regions are to be examined by approved methods of NDE:

(a) Primary bracing shell plating, including butts and seams and welding in way of the toes of both internal and external brackets (i.e.~~,~~ axial gusset or diaphragm plates and stiffener ends).
(b) Primary bracing shell plating and welding in way of changes of section, connections to main structure (e.g.~~,~~ columns, lower hulls, pontoons, decks, etc.) and intersections with other braces or node fabrications.
(c) All penetrations and attachments to primary bracings including drain, vent and access holes, hydrophone mountings, together with edge reinforcements, attachments for cathodic protection (both sacrificial anodes and impressed current systems), and guard-rail mountings, eye plates or lugs, etc.
(d) Diaphragm, bulkhead or deck plating and welding inside columns, pontoons or upper hull connection areas, in way of ends of primary bracings, local shear gussets between adjacent tube ends, and gussets, brackets of stiffeners forming a continuity of axial members from inside bracings. Also, column or deck plating and welded connections to bracings in way of internal diaphragm inside bracing.
(e) Column connections to ~~lower hulls,~~ pontoons and upper hull structure, including internal supporting structure, lower hulls, as accessible above the waterline and or as far as practicable by dry survey methods.
(f) The structure in way of tether connections on ~~tensionleg~~ tension-leg units as far as practicable by dry survey methods. Where significant damage or deterioration has occurred since the last survey, the scope is to be increased to include underwater areas at the Surveyor's discretion. Confirmatory survey of tendon tension monitoring system.

At the first Annual Survey after build, units are subject to examination of major structural components including NDE of critical areas, *see also Pt 1, Ch 3, 1.6 Planned survey programme* and *Pt 1, Ch 2, 3.5 Existing installations – Periodical Surveys*.

~~It is important that an~~ An agreed procedure is to be established for the schedule of extent of examination and the proportion of NDE required at subsequent surveys, *see also Pt 1, Ch 2, 3.5 Existing installations – Periodical Surveys*. Specific critical regions are to be examined by approved methods of NDE. Column structure and upper hull structure where accessible above the waterline are to be generally examined.

2.2.4 **Self-elevating units**. ~~At the first Annual Survey subsequent to build, units are subject to examination of major structural components, including NDE of critical areas, *see also Pt 1, Ch 3, 1.6 Planned survey programme* and *Pt 1, Ch 2, 3.5 Existing installations – Periodical Surveys*. The~~ In addition to the requirements of *Pt 1, Ch 3, 2.2 Structure and equipment 2.2.1* and *Pt 1, Ch 3, 2.2 Structure and equipment 2.2.2,* the Surveyor is to be satisfied regarding the efficient condition of:

- Jack-house structures and attachments to upper hull or platform.
- Locking system.
- Jacking (including pinion, rack gear, etc.) or other elevating systems and leg guides, externally.
- Legs as accessible above the waterline.
- Plating and supporting structure in way of leg wells.
- Drilling derrick support structure.

It is important that an agreed procedure is established for the schedule of extent of examination and the proportion of NDE required at subsequent surveys, *see also Pt 1, Ch 2, 3.5 Existing installations – Periodical Surveys*. Specific critical regions to be examined by approved methods of NDE include the following:

(a) Leg guides and hull support structure.
(b) Leg well bulkheads below jacking tower or jack-house.
(c) Connections between jack-house structure and main deck and underdeck supporting structure.
(d) The jack-house roof above the jacking machinery (i.e.~~,~~ above the shock foundation) and in the vicinity of upper guide structure.
(e) General inspection of bracings, gussets, chord joints and racks of the legs. Inspection of tubular or similar type legs including pin holes.
(f) Leg connections to bottom mats or spud cans.
(g) Drilling derrick supporting structure.

At the first Annual Survey subsequent to build, units are subject to examination of major structural components, including NDE of critical areas, *see also Pt 1, Ch 3, 1.6 Planned survey programme* and *Pt 1, Ch 2, 3.5 Existing installations – Periodical Surveys*.

■ *Section 12*
Periodical Survey Regulations – Screwshafts, tube shafts and propellers

Existing Section 12 has been deleted in its entirety.

12.1 Definitions

12.1.1 **Adequate means for protection against corrosion**. An adequate means for protection against corrosion is an approved means for full protection of the shaft against sea water intrusion and subsequent corrosion attack. Such means are used for the protection of common steel material against corrosion, particularly in combination with water lubricated bearings. Typical means are to be, for example:

(a) continuous metallic, corrosion-resistant liners (*see Rules and Regulations for the Classification of Ships Pt 5, Ch 6, 3.9 Bronze or gunmetal liners on shafts*);
(b) continuous cladding;
(c) multiple layer synthetic coating;
(d) multiple layers of fiberglass;
(e) combinations of above mentioned;
(f) rubber/elastomer covering coating.

The means for protection against corrosion are to be installed/applied according to LR approved procedures.

12.1.2 **Fresh Water sample test**. At the Screwshaft Survey, a sample of the fresh water in a closed loop fresh water lubricated shaft is to be taken in the presence of a Surveyor. The requirements for Fresh Water sample tests are given in the *ShipRight Procedure Machinery Planned Maintenance and Condition Monitoring*.

12.1.3 **Lubricating oil analysis**. Lubricating oil analysis is to be carried out at regular intervals not exceeding six months. The documentation on lubricating oil analysis is to be available on board. Oil samples, to be submitted for the analysis, are to be taken under service conditions.

12.1.4 **Oil sample examination**. An oil sample examination is a visual examination of the stern tube lubricating oil taken in the presence of a Surveyor, with a focus on water contamination.

12.1.5 **Service records**. Service records are regularly recorded data showing in-service conditions of the shaft(s) and are to include:

(a) for Oil Lubricated Stern Bearings: lubricating oil temperature, bearing temperature and oil consumption records;
(b) for Closed Loop System Fresh Water Lubricated Bearings: water flow, water temperature, salinity, pH, make-up water and water pressure (depending on design).

12.1.6 **Survey Methods on Closed Systems**. Oil Lubricated Shafts or Closed Loop System Fresh Water Lubricated Shafts:

(a) **TS Method 1** – Survey of screwshaft, tube shaft and propeller in accordance with the requirements of TS Method 1, *see Table 3.12.3 Shaft Survey Methods*. Primarily, the shaft is withdrawn and the propeller is removed.
(b) **TS Method 2** – Survey of screwshaft, tube shaft and propeller in accordance with the requirements of TS Method 2, *see Table 3.12.3 Shaft Survey Methods*. Primarily, records are reviewed, the propeller is removed but the shaft is not withdrawn.
(c) **TS Method 3** – Survey of screwshaft, tube shaft and propeller in accordance with the requirements of TS Method 3, *see Table 3.12.3 Shaft Survey Methods*. Primarily, records are reviewed, the shaft is not withdrawn and the propeller is not removed.

12.1.7 **Survey Methods on Open Systems**. Water Lubricated Shafts:

(a) **TS Method 4** – Survey of screwshaft, tube shaft and propeller in accordance with the requirements of TS Method 4, *see Table 3.12.3 Shaft Survey Methods*. Primarily, the shaft is withdrawn and the propeller is removed.

12.1.8 **Tube shaft** is a shaft placed between the intermediate shaft and propeller shaft, normally arranged within a stern tube or running in open water. It may also be called a stern tube shaft.

12.2 Closed Systems – Oil Lubricated Shafts or Closed Loop System Fresh Water Lubricated Shafts: Frequency of surveys

12.2.1 Oil lubricated shafts fitted with approved oil glands and closed loop system fresh water lubricated shafts fitted with approved adequate means of protection against corrosion or fabricated from corrosion-resistant material are to be surveyed in accordance with *Pt 1, Ch 3, 12.2 Closed Systems – Oil Lubricated Shafts or Closed Loop System Fresh Water Lubricated Shafts: Frequency of surveys 12.2.2* to *Pt 1, Ch 3, 12.2 Closed Systems – Oil Lubricated Shafts or Closed Loop System Fresh Water Lubricated Shafts: Frequency of surveys 12.2.5.*

12.2.2 Shafts with a keyless propeller connection or a flanged propeller connection (including controllable pitch propellers for main propulsion purposes) are to be surveyed at intervals of 5 years in accordance with TS Method 1, 2 or 3.

12.2.3 Shafts with a keyed propeller connection with a keyway that complies fully with the present Rules are to be surveyed at intervals of 5 years in accordance with TS Method 1 or 2; TS Method 3 is not permitted.

12.2.4 For oil lubricated keyless shafts, the maximum interval between two surveys carried out according to TS Method 1 or TS Method 2 shall not exceed 15 years, except in cases when one extension of no more than 3months is agreed. The Classification Committee may accept alternative arrangements based on the low running hours of offshore units.

12.2.5 Closed loop system fresh water lubricated shafts may be surveyed in accordance with TS Method 2, or for keyless shafts TS Method 3, only if the descriptive note **ShipRight SCM** is assigned. Notwithstanding this, the maximum interval between two surveys carried out according to TS Method 1 shall not exceed 15 years, except in cases when one extension of no more than 3months is agreed. The Classification Committee may accept alternative arrangements based on the low running hours of offshore units.

12.2.6 Shaft configurations other than those listed in *Pt 1, Ch 3, 12.2 Closed Systems – Oil Lubricated Shafts or Closed Loop System Fresh Water Lubricated Shafts: Frequency of surveys 12.2.1* to *Pt 1, Ch 3, 12.2 Closed Systems – Oil Lubricated Shafts or Closed Loop System Fresh Water Lubricated Shafts: Frequency of surveys 12.2.5* above are to be surveyed at intervals of 3 years in accordance with TS Method 1.

12.2.7 TS Method 2 and TS Method 3 are only permitted where the prerequisite service records and data specified for those methods are to be provided. If at the time of survey, the attending Surveyor is not satisfied with the service records and data presented, then the shaft may be required to be withdrawn. The service records and data are to be retained on board and audited by LR at the Annual Survey.

12.2.8 For oil lubricated arrangements, the descriptive note **ShipRight SCM** is not a prerequisite in order to hold TS Method 2 and TS Method 3 surveys.

12.2.9 In order to assign and maintain the descriptive note **ShipRightSCM,** the requirements of *Pt 5, Ch 6, 4 Control and Monitoring* of the Rules for Ships and *ShipRight Procedure Machinery Planned Maintenance and Condition Monitoring, Section 4* are to be complied with, including the requirements therein for onboard maintenance of records and review of them by the attending Surveyor at Annual Survey..

12.2.10 For surveys completed within 3 months before the Shaft Survey due date, the next period will start from the Shaft Survey due date.

12.2.11 *See* Summary of Survey Intervals and Extensions for closed systems in *Table 3.12.1 Summary of Survey Intervals and Extensions - closed systems*.

12.3 Open Systems – Water Lubricated Shafts: Frequency of surveys

12.3.1 Survey in accordance with TS Method 4 at intervals of 5 years is applicable to any of the following:

(a) single shaft operating in fresh water only;
(b) single shaft provided with approved adequate means of protection against corrosion or fabricated from corrosion-resistant material;
(c) multiple shaft arrangements.

12.3.2 Single shaft configurations other than those listed above are to be surveyed every 3 years in accordance with TS Method 4.

12.3.3 For shafts subject to five-yearly surveys with keyless connections, at the Surveyor’s discretion removal of the propeller and NDE of the shaft taper, as required by TS Method 4, need only be carried out every 15 years, subject to a satisfactory visual inspection of all accessible parts of the shafting system at the intervening surveys.

12.3.4 For surveys completed within 3 months before the Shaft Survey due date, the next survey period will start from the Shaft Survey due date.

12.3.5 At the discretion of the Classification Committee, consideration may be given to accept special arrangements to monitor the condition of the screwshaft, bearings, sealing devices and the stern tube lubricant system so as to allow an extension to the interval between withdrawals of the screwshaft required by TS Method 4. This is subject to the shaft being provided with approved adequate means of protection against corrosion or being fabricated from corrosion-resistant material.

12.3.6 *See* Summary of Survey Intervals and Extensions for open systems in *Table 3.12.2 Summary of Survey Intervals and Extensions - open systems*.

12.4 Survey extensions

12.4.1 Consideration can be given at the discretion of the Classification Committee to extend the intervals between surveys. This will be based on:

(a) a satisfactory diver’s/ROV external examination of the shaft bearing and outboard seal area including weardown check as far as is possible;
(b) internal examination of the shaft area (inboard seals) in propulsion room(s);
(c) confirmation of satisfactory lubricating oil records (oil loss rate, contamination);
(d) shaft seal elements are examined/replaced in accordance with seal’s manufacturer’s recommendations;
(e) low running hours.

12.4.2 If the extension survey is carried out within one month of the shaft survey due date then the extension will take effect from the Shaft Survey due date.

12.4.3 If the extension survey is carried out more than one month prior to the Shaft Survey due date, then the period of extension will take effect from the date on which the extension survey was completed.

Table 3.12.1 Summary of Survey Intervals and Extensions - closed systems

Oil Lubricated			
	Flanged Propeller Coupling	Keyless Propeller Coupling	Keyed Propeller Coupling
Every 5 years	TS Method 1 or TS Method 2 or TS Method 3	TS Method 1 or TS Method 2 or TS Method 3	TS Method 1 or TS Method 2
Extension as agreed by the Classification Committee	Yes	Yes	Yes
Closed Loop System Fresh Water Lubricated			
	Flanged Propeller Coupling	Keyless Propeller Coupling	Keyed Propeller Coupling
Every 5 years	TS Method 1 or TS Method 2 or TS Method 3	TS Method 1 or TS Method 2 or TS Method 3	TS Method 1 or TS Method 2
Extension as agreed by the Classification Committee	Yes	Yes	Yes
General notes: • For surveys (TS Method 1, or TS Method 2, or TS Method 3) completed within 3 months before the Shaft Survey due date, the next period will start from the Shaft Survey due date. • If the extension survey is carried out within 1 month of the Shaft Survey due date, then the extension will take effect from the Shaft Survey due date. If the extension survey is carried out more than 1 month prior to the Shaft Survey due date, then the period of extension counts from the date when the extension survey was completed.			

Table 3.12.2 Summary of Survey Intervals and Extensions - open systems

<table>
<tr><td colspan="2">• Single shaft operating exclusively in fresh water.
• Single shaft provided with adequate means of corrosion protection, single corrosion-resistant shaft.
• All kinds of Multiple shaft arrangements.</td><td colspan="2">Other shaft configuration.</td></tr>
<tr><td></td><td>All kinds of propeller coupling</td><td></td><td>All kinds of propeller coupling</td></tr>
<tr><td>Every 5 years</td><td>TS Method 4</td><td>Every 3 years</td><td>TS Method 4</td></tr>
<tr><td>Extension as agreed by the Classification Committee</td><td>Yes</td><td></td><td>Yes</td></tr>
<tr><td colspan="4">General notes:
• For surveys (TS Method 4) completed within 3 months before the Shaft Survey due date, the next period will start from the Shaft Survey due date.
• If the extension survey is carried out within 1 month of the Shaft Survey due date, then the extension will take effect from the Shaft Survey due date. If the extension survey is carried out more than 1 month prior to the Shaft Survey due date, then the period of extension counts from the date when the extension survey was completed.</td></tr>
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12.5 Shaft Survey Methods

12.5.1 For the survey methods *see Table 3.12.3 Shaft Survey Methods*.

Table 3.12.3 Shaft Survey Methods

	TS METHOD 1	**TS METHOD 2**	**TS METHOD 3**	**TS METHOD 4**
GENERAL				
Drawing the shaft and examining the entire shaft (including liners, corrosion protection system and stress reducing features, where provided), sealing system and bearings.	X			X
SHAFT				
Visual examination of all accessible parts of the shafting system *in situ.*		X	X	
For keyed and keyless propeller connections, removing the propeller to expose the forward end of the taper.	X	X		X
For keyed and keyless propeller connections, perform a non-destructive examination (NDE) by an approved surface crack-detection method around the after end of the cylindrical part of the shaft and the forward one-third of the shaft cone, including the keyway with the key removed (if fitted); for shafts provided with liners the NDE shall be extended to the after edge of the liner.	X	X		X
For flanged connections, whenever the coupling bolts of any type of flange-connected shaft are removed or the flange radius is made accessible in connection with overhaul, repairs or when deemed necessary by the Surveyor, the coupling bolts and flange radius are to be examined by means of an approved surface crack detection method.	X	X	X	X
Visual examination of all accessible parts of the shafting system following re-installation of the shaft.	X			X
PROPELLER				
Examination of the propeller.	X	X	X	X
Controllable pitch propellers, where fitted, are to be opened up and the working parts examined, together with the control gear. Propeller to be examined upon reassembly.	X	X		X
Where a controllable pitch propeller is fitted, at least one of the blades is to be dismantled completely for examination of the working parts and the control gear. Propeller to be examined upon reassembly.			X	
Examination of the propeller following re-installation.	X	X		X
BEARING CLEARANCES				
Checking, recording and verification of bearing clearances.	X			X
Recording the bearing weardown measurements after re-installation, if applicable.	X			
Checking and recording the bearing weardown measurements.		X	X	
SEALING SYSTEM				
Examine the inboard and outboard seals with shaft removed and following the re-installation of the shaft and propeller.	X			X
Examine the inboard and outboard seals.		X	X	
Examination of seal liner.		X	X	
OTHERS				
Stationary supporting structure and any erosion protection inserts or doublers are to be examined in way of any propulsion devices.	X	X	X	X
Verification of no unapproved repairs by grinding or welding of shaft and/or propeller.	X	X	X	X
SERVICE RECORDS				

Review of service records.		X	X	
Review of test records of Lubricating Oil Analysis (for oil lubricated shafts), or Fresh Water Sample Test (for closed system fresh water lubricated shafts).		X	X	
Oil Sample Examination (for oil lubricated shafts), or Fresh Water Sample Test (for closed system fresh water lubricated).		X	X	

12.6 Other systems

12.6.1 Directional propeller and podded propulsion units for main propulsion purposes, inclusive of the propellers, shafts, gearing, control gear and the primary electrical components including any control and protection devices, are to be surveyed at intervals not exceeding five years. They are to be dismantled if considered necessary, and generally examined as far as practicable. Non-destructive examination on blade/fin roots is to be carried out as considered necessary by the Surveyor. Consideration may be given to condition monitoring schemes for determining the condition of the unit.

12.6.2 Podded propulsion unit screwshaft roller bearings are to be renewed when the calculated life at the maximum continuous rating no longer exceeds the survey interval, *see* the *Rules and Regulations for the Classification of Ships Pt 5, Ch 9, 5 Machinery design and construction requirements 5.3.7*.

12.6.3 Dynamic positioning and/or thruster-assisted mooring and athwartship thrust propellers and shaftings are to be surveyed at intervals not exceeding 5 years. They are to be generally examined so far as possible in dry dock and tested under working conditions afloat for satisfactory operation. All accessible parts, including sealing, locking and bearing faces, and any other moving parts are to be examined. Non-destructive examination is to be carried out as considered necessary by the Surveyor on blade/fin roots. Consideration may be given to condition monitoring schemes for determining the condition of the unit.

12.6.4 Water jet units for main propulsion purposes, including the impeller, casing, shaft, shaft seal, shaft bearing, inlet and outlet channels, steering nozzle, reversing arrangements, and control gear are to be surveyed at intervals not exceeding 5 years, provided the impeller shafts are made of approved corrosion-resistant material or have approved equivalent arrangements. They are to be generally examined so far as practicable.

12.6.5 Stationary supporting structure and any erosion protection inserts or doublers are to be examined in way of any propulsion devices.

12.7 Alternative arrangements

12.7.1 The Classification Committee will be prepared to give consideration to the circumstances of any special case upon application by the Owner, where the level of safety achieved is equivalent to that obtained by the survey methods described in this Section.

■ *Section 22*
Notations and Descriptive Notes

22.1 Notations

(Part only shown)

Table 3.22.1 Type Notations

Notation	**Description**	**~~See also~~*See also***
LA	Mandatory lifting appliance(s). Assigned where the lifting appliance(s) is considered to be an essential feature	*Pt 3, Ch 4, 1.2 Class notations 1.2.8* *Pt 3, Ch 11 Lifting Appliances and Support Arrangements* *Pt 3, Ch 16, 1.4 Class notations 1.4.6* *Code for Lifting Appliances in a Marine Environment, July 2017*
L˙A	Mandatory notation assigned where one or more lifting appliances are considered to be an essential feature of the vessel and have been classed by a recognised classification society other than LR and later transferred into class with LR. In such cases, a new Register of Ship's Lifting Appliances & Cargo Handling Gear (LA.1) will be issued in accordance with LR's *Code for Lifting Appliances in a Marine Environment*, *July 2017*	*Pt 3, Ch 4, 1.2 Class notations 1.2.8* *Pt 3, Ch 11 Lifting Appliances and Support Arrangements* *Pt 3, Ch 16, 1.4 Class notations 1.4.6* *Code for Lifting Appliances in a Marine Environment, July 2017*

22.2 Descriptive Notes

(Part only shown)
Descriptive qualification notes may be agreed indicating the type of unit in greater detail than is contained in the class notation, and/or providing additional information about the design and construction.

Descriptive Notes:		
ThCM	Thruster Condition Monitoring	ShipRight Procedures
IHM	Inventory of Hazardous Materials	ShipRight Procedures
ESP	Enhanced Survey Programme	Where the owner elects to undertake hull Special Survey in accordance with the requirements of *Pt 1, Ch 3, 7 Special Survey - Oil tankers (including ore/oil ships and ore/bulk/oil ships) - Hull requirements* of the *Rules and Regulations for the Classification of Ships, July 2017*

Part 3, Chapter 4
Accommodation and Support Units

■ *Section 1*
General

1.2 Class notations

1.2.8 Where the lifting appliances form an essential feature of a classed unit, the special feature class notation **LA** or **LȦ** will be assigned, *see Pt 3, Ch 11 Lifting Appliances and Support Arrangements.*

Part 3, Chapter 11
Lifting Appliances and Support Arrangements

■ *Section 1*
Rule application

1.1 General

1.1.3 Where the lifting appliance is considered to be an essential feature of a classed unit, the special feature class notation **LA** or **LȦ** will, in general, be mandatory.

1.3 Lifting appliances

(Part only shown)

Table 11.1.1 Special features class notations associated with lifting appliances

Lifting appliances forming an essential feature of the ~~unit~~ vessel, e.g. cranes on crane barges ~~or units~~ or pontoons, lifting arrangements for diving on diving support ~~units~~ vessels, etc.	**LA**	*Mandatory notation.* Indicates that the lifting appliance is included in class.
Lifting appliances forming an essential feature of the vessel where the appliance(s) has been classed by a recognised classification society other than LR and later transferred into class with LR.	**LȦ**	*Mandatory notation*. Indicates that the lifting appliance is classed and that initial requirements for the appliance were that of another recognised classification society.

Part 3, Chapter 16
Wind Turbine Installation and Maintenance Vessels and Liftboats

■ *Section 1*
General

1.4 Class notations

1.4.6 Where the lifting appliances form an essential feature of a classed unit, the special feature class notation ~~*‘LA’*~~ **LA** or **LȦ** will be assigned, *see Pt 3, Ch 11 Lifting Appliances and Support Arrangements*.

Part 5, Chapter 1
General Requirements for Offshore Units

■ *Section 1*
General

~~1.4 Departures from the Rules~~

~~1.4.1 Where it is proposed to depart from the requirements of the Rules, the Classification Committee will be prepared to give consideration to the circumstances of any special case.~~

~~1.4.2 Any novelty in the construction of the machinery, boilers or pressure vessels is to be reported to the Classification Committee.~~

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